IN THE CLAIMS:

Please cancel claims 1-31 and 41-72 without prejudice and enter new claims 73-86.

1-31. **(Canceled).**

32.(**Original**) A method for isolating arterial smooth muscle cells, comprising

a) dissociating cells of a tissue sample comprising arterial smooth muscle cells;

b) contacting the dissociated cells with a first substance which binds to a cell-surface protein expressed on arterial smooth muscle cells, wherein said cell-surface protein is selected from the group consisting of an Ephrin family ligand and an Eph family receptor;

c) contacting the dissociated cells with a second substance which binds to a cell-surface protein expressed on smooth muscle cells; and

d) separating those cells which have bound both said first and said second substances from those cells which have not bound both said first and second substances, wherein those cells that bind both said first and second substances are arterial smooth muscle cells.

33. (**Original**) The method of Claim 32 wherein said cell-surface protein expressed on arterial smooth muscle cells is an Ephrin family ligand.

34. (**Original**) The method of Claim 33 wherein said Ephrin family ligand is EphrinB2.

35. (**Original**) The method of Claim 32 wherein said first substance is selected from the group consisting of an antibody and an antigen-binding fragment thereof.

36. (**Original**) The method of Claim 32 wherein said second substance is selected from the group consisting of an antibody and an antigen-binding fragment thereof.

37. (**Original**) The method of Claim 36 wherein said second substance is an antibody or antigen-binding fragment thereof which binds smooth muscle actin.

38. (**Original**) Arterial smooth muscle cells isolated using the method of Claim 32.

39. (**Amended**) A method for assessing an effect of an agent on arterial smooth muscle cells isolated using the method of Claim 32, comprising

a) adding said agent to said isolated arterial smooth muscle cells; and

b) comparing the effect of said agent on said isolated arterial smooth muscle cells with a suitable control~~, wherein said suitable control comprises arterial smooth muscle cells in the absence of said agent~~.

40. **(Original)** A cell line derived from arterial smooth muscle cells which are isolated using the method of Claim 32.

41-72. **(Canceled)**

73. **(New)** A method of claim 38, wherein the suitable control comprises arterial smooth muscle cells in the absence of said agent.

74. **(New)** A method for assessing or identifying an agent that affects arterial smooth muscle cells, comprising:

(a) combining:

(1) a first polypeptide including at least a portion of an Ephrin ligand that is selectively expressed on one of either venous or arterial smooth muscle cells and that interacts with an Eph receptor,

(2) a second polypeptide including at least a portion of the Eph receptor that is selectively expressed on one of either arterial or venous smooth muscle cells and that interacts with said Ephrin ligand, and

(3) an agent,

under conditions wherein said at least a portion of an Eph receptor and said at least a portion of an Ephrin ligand portions of interact in the absence of said agent; and

(b) determining if said agent interferes with said interaction.

75. **(New)** The method of claim 74, further comprising:

(c) for an agent that interferes with said interaction, further assessing the ability of said agent to affect a process involving arterial smooth muscle.

76. **(New)** The method of claim 75, wherein the process involving arterial smooth muscle is selected from among: tumor formation, arterial malformation, arteriovenous malformation, coronary artery disease, plaque formation, thrombosis, vasoactivity, neovascularization, and wound healing.

77. **(New)** The method of claim 74, wherein the interaction of said first and second polypeptides is determined by detecting binding of the first and second polypeptides , wherein at least one of the first and second polypeptides includes a detectable label.

78. **(New)** The method of claim 77 wherein the label is selected from the group consisting of a radioactive label, a fluorescent label and a colorimetric label.

79. **(New)** The method of claim 74, wherein the agent is selected from the group consisting of a peptide, a polypeptide, a peptoid, a sugar, a hormone and a nucleic acid molecule.

80. **(New)** The method of claim 74, wherein the agent is an organic compound.

81. **(New)** The method of claim 74, wherein

(a) the first polypeptide is expressed on a cell; and/or

(b) the second polypeptide is expressed on a cell.

82. **(New)** The method of Claim 81, wherein

(a) the first polypeptide is expressed on an isolated arterial smooth muscle cell; and/or

(b) the second polypeptide is expressed on an isolated venous smooth muscle cell.

83. **(New)** The method of claim 74, wherein

(a) the Ephrin ligand is selected on the basis of being selectively expressed on arterial smooth muscle cells; and/or

(b) the Eph receptor is selected on the basis of being selectively expressed on venous smooth muscle cells.

84. **(New)** The method of Claim 83, wherein

(a) the first polypeptide is expressed on a cell which has been genetically modified to recombinantly express the first polypeptide ; and/or

(b) the second polypeptide is expressed on a cell which has been genetically modified to recombinantly express the second polypeptide.

85. **(New)** The method of Claim 74, wherein

(a) the first polypeptide is conjugated to a solid support and the second polypeptide is diffusible; or

(b) the second polypeptide is conjugated to a solid support and the first polypeptide is diffusible.

86. **(New)** The method of claim 74, wherein the Ephrin ligand is Ephrin B2 and wherein the Eph receptor is Eph B4.